Listing of Claims:

1.(Previously Presented) A method for controlling SO_3 in a combustion process of a sulfur-containing fuel utilizing selective catalytic reduction for the control of NOx emissions, the method steps comprising:

a) partially combusting the fuel in a first stage to create a reducing environment;

b) actively adjusting the reducing environment such that SO_3 is reduced to SO_2 to effectuate an overall decrease in SO_3 concentration prior to selective catalytic reduction to achieve a desirable level of SO_3 for optimizing precipitator function; and

c) combusting the remainder of the fuel and combustion intermediates in a second stage with oxidizing environment; thereby controlling the levels of SO_3 in the flue gases.

2.(Original) The method of claim 1, further including the step of micro-staging the first stage fuel combustion.

3.(Original) The method of claim 2, wherein the micro-staging is provided through the use of low-NOx burners.

4.(Original) The method of claim 1, further including the step of macro-staging the first stage of fuel combustion.

5.(Original) The method of claim 4, wherein the macro-staging is provided through the use of over-fired air.

6.(Original) The method of claim 1, further including a combination of micro-staging and macro-staging.

7.(Original) The method of claim 6, wherein the micro-staging is provided by low-NOx burners and the macro-staging is provided by over-fired air.

8.(Original) The method of claim 1, wherein the fuel is coal.

9.(Previously Presented) A combustion furnace utilizing selective catalytic reduction for the control of NOx emissions and a precipitator, said furnace operated with a method for controlling SO_3 in a combustion process of a sulfur-containing fuel, the method steps comprising:

a) partially combusting the fuel to create a reducing environment;

b) actively adjusting the reducing environment such that SO_3 is reduced to SO_2 to effectuate an overall decrease in SO_3 concentration and achieve a desirable level of SO_3 for optimizing precipitator function; and

c) combusting the remainder of the fuel in an oxidizing environment; thereby reducing the conversion of levels of SO_3 in the flue gases.

10.(Original) The method of claim 9, further including the step of micro-staging the first stage fuel combustion.

11.(Original) The method of claim 10, wherein the micro-staging is provided through the use of low-NOx burners.

12.(Original) The method of claim 9, further including the step of macro-staging the first stage of fuel combustion.

13.(Original) The method of claim 12, wherein the macro-staging is provided through the use of over-fired air.

14.(Original) The method of claim 9, further including a combination of micro-staging and macro-staging.

15.(Original) The method of claim 14, wherein the micro-staging is provided by low-NOx burners and the macro-staging is provided by over-fired air.

16.(Original) The method of claim 9, wherein the fuel is coal.

17.(Previously Presented) A method for controlling SO_3 concentrations in a combustion process of a sulfur-containing fuel, the method steps comprising:

a) partially combusting the fuel in a first stage to create a reducing environment;

b) actively adjusting the reducing environment time period such that SO_3 is preferentially reduced to SO_2 to achieve a desirable level of SO_3 for optimizing precipitator function; and

c) combusting the remainder of the fuel and combustion intermediates in a second stage with oxidizing environment; thereby controlling the levels of SO_3 in the flue gases.

18.(Original) The method of claim 17, further including the step of micro-staging the first stage fuel combustion.

19.(Original) The method of claim 18, wherein the micro-staging is provided through the use of low-NOx burners.

20.(Original) The method of claim 17, further including the step of macro-staging the first stage of fuel combustion.

21.(Original) The method of claim 20, wherein the macro-staging is provided through the use of over-fired air.

22.(Original) The method of claim 17, further including a combination of micro-staging and macro-staging.

23.(Original) The method of claim 22, wherein the micro-staging is provided by low-NOx burners and the macro-staging is provided by over-fired air.

24.(Original) The method of claim 17, wherein the fuel is coal.